

3. (Amended) The dental implant as claimed in claim 1, wherein

- a) the root part at the ridge line has a maximum radius ( $r_{max}$ ) extending in the radial x-direction;
- b) the parabolic outer contour, placed in a cartesian system of x-y coordinates, with the implant tip positioned at the origin, follows the equation  $l_y = K \cdot 4r_x^2$ , where
- c)  $l_y$  represents the respective ordinate value and  $r_x$  represents the associated abscissa value; and
- d) the constant (K) results from the equation:

$$K = l_{max} : 4r_{max}^2.$$

4. (Amended) The dental implant as claimed in claim 3, wherein the maximum radius ( $r_{max}$ ) is between 1 mm and 3 mm.

5. (Amended) The dental implant as claimed in claim 1, wherein

- a) the outer thread is self-cutting;
- b) the length ( $l_{max}$ ) of the root part correlates with a pitch (S) of the outer thread;
- c) the outer thread ends at a distance, in the range of from 1 mm to 4 mm, from the ridge line; with
- d) the distance being greater as the length ( $l_{max}$ ) of the root part increases.

6. (Amended) The dental implant as claimed in claim 5, wherein the length ( $l_{max}$ ) of the root part and the pitch (S) of the outer thread, given a maximum radius ( $r_{max}$ ) = 2 mm, correlate with one another as follows:

Length ( $l_{max}$ ) of root part (2) [mm]	Pitch (S) [mm]
6	0.65
8	1
10	1
14	1
16	1

7. (Amended) The dental implant as claimed in claim 1, wherein the outer thread includes thread teeth,

- a) the thread teeth at the root part extend in the y- direction, and have a height ( $g_h$ ) of about 0.3 mm; and
- b) the thread teeth in the x-direction, have a length ( $g_l$ ) in the range of from 0.25 mm to 0.5 mm.

8. (Amended) The dental implant as claimed in claim 7, wherein

- a) the maximum radius is 2 mm;
- b) the length ( $g_l$ ) of the thread teeth decreases as the length ( $l_{max}$ ) of the root part (2) increases; and
- c) the outer thread with its thread teeth has the following values:



Length ( $l_{max}$ ) of root part [mm]	Height ( $g_h$ ) of thread teeth [mm]	Length ( $g_l$ ) of thread teeth [mm]
6	0.3	0.4
8	0.3	0.4
10	0.3	0.3
14	0.3	0.25
16	0.3	0.25

9. (Amended) The dental implant as claimed in claim 1, wherein

- a) the implant is made of biocompatible material; and
- b) the root part has a rough surface which is plasma-coated or ceramic-coated or is treated chemically, electrochemically, mechanically or by laser.

10. (Amended) The dental implant as claimed in claim 1, wherein the implant neck

- a) is made of titanium, a titanium-based alloy or another biocompatible metal or its alloy and is polished; or
- b) is coated with ceramic, glass ceramic, ceramic-like material, hydroxyapatite, plastic or metal.

11. (Amended) The dental implant as claimed in 1, wherein

- a) measured in the y-direction, the implant neck has a height (h) in the range of from 1 mm to 3 mm; and
- b) the implant neck is cylindrical or is widened or narrowed in a trumpet shape or conically in the coronal direction.

Add the following claims:



12. (New) The dental implant as claimed in claim 4, wherein the maximum radius is from about 1.5 mm to about 2 mm.